

WE CLAIM:

1. A cordless power tool comprising:
 - (a) a main body portion;
 - (b) a handle portion depending from the main body portion; and
 - (c) a mechanism for releasably securing a battery having battery terminals to the handle portion opposite the main body portion, the mechanism including:
 - (i) a battery receiving portion integral with the handle portion, the battery receiving portion having battery contacts disposed therein;
 - (ii) an attachment portion integral with the battery, the attachment portion being constructed and arranged for engaging the battery receiving portion such that the battery terminals engage the battery contacts;
 - (iii) a closure member operable with and transversely disposed within the battery receiving portion and configured to secure the battery within the battery receiving portion, the closure member having a lock position and a release position, the closure member including:
 - (i) first and second opposite ends, the first end being disposed through a side wall of the tool housing and defining a push button for selectively moving the closure member from the lock position to the release position, thereby allowing the battery to be easily removed from the power tool.
2. The power tool of claim 1, the closure member further comprising a locking finger integral with the second end, the locking finger being constructed and arranged for securing the battery within the battery receiving portion when the closure member is in the lock position.
3. The power tool of claim 1, wherein:
 - (a) the battery receiving portion includes first and second guide channels;and

- (b) the attachment portion comprises first and second guide rails being constructed and arranged for interlocking with the first and second guide channels.
- 4. The power tool of claim 3, the closure member further comprising a locking finger integral with the second end, the locking finger being constructed and arranged for securing the guide rails within the guide channels when the battery is positioned within the battery receiving portion and the closure member is in the lock position.
- 5. The power tool of claim 4, wherein the locking finger has a chamfered surface constructed and arranged to engage with the first guide rail of the attachment portion such that the closure mechanism is moved to the release position.
- 6. The power tool of claim 4, wherein the locking finger obstructs at least a portion of the first guide channel when the closure member is in the lock position.
- 7. The power tool of claim 4, wherein the locking finger is removed from the first guide channel when the closure member is in the release position.
- 8. The power tool of claim 1, wherein the closure member is spring biased in the lock position.
- 9. The power tool of claim 1, wherein the attachment portion slidably engages the battery receiving portion from the rear of the power tool.
- 10. A mechanism for releasably securing a battery having battery terminals to a power tool housing, the mechanism comprising:
 - (a) a battery receiving portion integral with the power tool housing, the battery receiving portion having battery contacts disposed therein and further having a mounting surface for receiving a battery;
 - (b) an attachment portion integral with the battery, the attachment portion constructed and arranged for engaging the battery receiving portion such that the battery terminals engage the battery contacts;
 - (c) a closure member operable with and arranged substantially perpendicular to the battery receiving portion and configured to secure the battery

within the battery receiving portion when the closure member is in a lock position and disengage the battery when the closure member is in a release position, the closure member including:

- (i) first and second opposite ends;
- (ii) an elongated body portion;
- (iii) a locking finger integral with and extending from the body portion substantially near the second end of the closure member, the locking finger being constructed and arranged for securing the attachment portion when the battery is positioned within the battery receiving portion.

11. The mechanism of claim 10, wherein the first end of the closure member is disposed through a side wall of the tool housing and defines a push button for selectively moving the closure member from the lock position to the release position.

12. The mechanism of claim 10, wherein

- (a) the battery receiving portion includes first and second guide channels having an upright member extending from the mounting surface and a flange member extending substantially perpendicular from the distal end of the upright member; and
- (b) the attachment portion comprises first and second guide rails being constructed and arranged for interlocking with the first and second guide channels, the guide rails having a first end for engaging the locking finger when the battery is moved in a first direction relative to the attachment portion, and a second end for engaging the locking finger when the battery is moved in a second direction relative to the attachment portion.

13. The mechanism of claim 12, wherein the locking finger includes a chamfered surface constructed and arranged to engage with the first guide rail of the attachment portion such that the closure mechanism is moved to the release position.

14. The mechanism of claim 13, wherein the locking finger further includes an occluding surface opposite the chamfered surface, the occluding surface being

constructed and arranged to obstruct at least a portion of the first guide channel when the closure member is in the lock position.

15. A method of releasably securing a battery to a power tool housing, the method comprising the steps of:

- (a) providing a battery receiving portion integral with the tool housing, the battery receiving portion being operable with a closure member transversely disposed within the battery receiving portion and configured to secure the battery within the battery receiving portion, the closure member having:
 - (i) first and second opposite ends, the first end being disposed through a side wall of the tool housing and defining a push button for selectively moving the closure member from a lock position to a release position;
- (b) providing an attachment portion integral with the battery, the attachment portion being constructed and arranged for engaging the battery receiving portion;
- (c) aligning the attachment portion with the battery receiving portion;
- (d) moving the battery in a first direction such that the attachment portion slidably engages the battery receiving portion and the closure member such that the closure member is urged into the release position; and
- (e) positioning the battery within the battery receiving portion such that the closure member returns to the lock position, thereby securing the battery to the power tool.

16. The method of claim 15, wherein:

- (a) the step of providing a battery receiving portion integral with the tool housing includes providing a battery receiving portion having first and second guide channels;
- (b) the step of providing an attachment portion integral with the battery includes providing an attachment portion having first and second guide rails being constructed and arranged for interlocking with the first and second guide channels; and

- (c) the step of aligning the attachment portion with the battery receiving portion further includes aligning the first and second guide rails with the first and second guide channels.
- 17. The method of claim 16, wherein:
 - (a) the step of providing a battery receiving portion operable with a closure member includes providing a closure member having a locking finger integral with the second end of the closure member; and
 - (b) the step of moving the battery in a first direction further includes moving the battery in a first direction such that the first and second guide rails slidably engage the first and second guide channels and the locking finger such that the closure member is urged into the release position.
- 18. The method of claim 15, the method further comprising the step of:
 - (a) depressing the push button such that the closure member moves from the lock position to the release position; and
 - (b) moving the battery in a second direction such that the attachment portion disengages from the battery receiving portion.
- 19. The method of claim 15, wherein:
 - (a) the step of moving the battery in a first direction includes moving the battery in a first direction such that the attachment portion slidably engages the battery receiving portion from the rear of the power tool.